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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Min-Ho Kim

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EXAMINER

NATNAEL, PAULO S M

ART UNIT

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2622

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/803,696	Applicant(s) KIM, MIN-HO	
	Examiner PAULOS M. NATNAEL	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-4, 8, 9, 11-15, 17-21, 23 and 24 is/are allowed.
- 6) ☒ Claim(s) 1, 5-7, 10, 16 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims **1, 5-6,10, 16, 22** are again rejected under 35 U.S.C. 102(e) as being anticipated by Patel, U.S. 6,396,542.

Considering claim **1**, Patel discloses a TV receiver receiving HDTV video signals and scan converts them to a lower line scanning rate with field-to-field interlace. Abstract. Patel discloses an NTSC rejection filter 30 for suppressing co-channel interference (*col. 10, 11-16*), sync detector 84 that separates horizontal sync pulses (*col. 19, lines 5-15; col. 20, lines 15-22*), NTSC/HDTV detector 68, and sync selector 33 (Fig.1). Patel teaches that, the NTSC-or-HDTV detector 68 conditionally generates an indication that television reception is of an NTSC signal if the keyed AGC signal from the FIG. 4 portion of the receiver is of such a level as to indicate that NTSC horizontal sync pulses of substantial level are being detected. NTSC horizontal sync pulses of substantial level may be detected in the presence of strong co-channel interference accompanying an HDTV transmission, however. The NTSC rejection filter 30 may be able to satisfactorily

reject the co-channel interference to provide HDTV reception. If the indications supplied to the NTSC-or-HDTV detector 68 are that an HDTV transmission is being received, this will forestall the NTSC-or-HDTV detector 68 generating an indication that television reception is of an NTSC signal. (*Col. 17, lines 25-38*) Patel therefore discloses all claimed subject matter.

Regarding claims **5 and 6**, see rejection of claim 1;

Considering claim **10**, see rejection of claim 1;

Regarding claim **16**, Patel discloses receiving HDTV (corresponding to the claimed DTV) signals and scan converts the received signals (Abstract). The reference teaches an NTSC rejection filter 30 that, as is well known in the art, rejects any NTSC, i.e., analog television signal from the received HDTV signal, meeting the claimed language “filtering the DTV signal through an analog television signal rejection filter”. (Note: The claimed detecting and determining are inherent in this process; for, without first detecting the presence of an analog signal, the system may not be able determine the presence of the same). The decoders 41, 47, 50 (Fig.2, for example) of the reference of Patel are all placed or found downstream (i.e., after) the rejection filter 30 (fig.1), meeting the claimed limitation “prior to decoding”. As to the claimed detecting analog TV synchronization pulses, Patel clearly and unambiguously discloses the following: “The NTSC-or-HDTV detector 68 conditionally generates an indication that television

reception is of an NTSC [i.e., analog] signal if the keyed AGC signal from the FIG. 4 portion of the receiver is of such a level as to indicate that NTSC horizontal sync pulses of substantial level are being detected. NTSC horizontal sync pulses of substantial level may be detected in the presence of strong co-channel interference accompanying an HDTV transmission, however. The NTSC rejection filter 30 may be able to satisfactorily reject the co-channel interference to provide HDTV reception.” (See, col. 17, lines 25+; see also col. 6, lines 8-45 and horizontal sync detector 84 in Fig.4; emphasis added). Thus, Patel teaches all claimed subject matter as claimed.

As to claim **22**, Patel discloses pulse rate divider circuitry for dividing the rate of the high-definition-television horizontal synchronizing pulses to generate rate-divided high-definition-television horizontal synchronizing pulses occurring at substantially the same rate as normal-definition horizontal synchronizing pulses. (See col. 6, lines 17-26)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim **7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Patel, 6,396,542.

Considering claim 7, Patel discloses an NTSC rejection filter but not a PAL rejection filter. However, the Examiner takes official notice in that such filters are well known in the art and, therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system of Patel by providing the well-known PAL filter so that the system would be more versatile and useful in both systems.

Response to Arguments

5. Applicant's arguments filed 3/14/08 have been fully considered but they are not persuasive.

6. Applicant argues that (1) the NTSC/HDTV detector circuit 68 is not involved with switching this filter into or out of the DTV signal processing path. (2) the switching circuitry is arranged to switch the rejection filter into and out of the DTV processing path in response to the presence of analog TV signal sync pulses. (3) Patel's multiplexer 128 is not involved with switching the filter into or out of the DTV signal processing path. 4) Claim 16 is amended to recite filtering...in response to the determination that an analog television signal is present.

Examiner submits (1) the detector circuit 68 is a detector not a switch or multiplexer and therefore would not be involved with switching this filter into or out of the DTV signal processing path. (2) the language that the applicant is using here is not in the claims. That is, claim 1 does not recite "the switching circuitry is arranged to switch the rejection filter into and out of the DTV processing path in response to the presence of analog TV

signal sync pulses. Rather, claim 1 recites “switching circuitry to include the analog television signal rejection filter in the DTV received signal processing path when the sync signal detector detects the presence of analog television signal synchronization pulses within the received signal”. (3) selector 33 is involved with the switching of the NTSC filter into or out of the DTV processing path. As to claim 16, Patel discloses the NTSC rejection filter 30 rejects any NTSC, i.e., analog television signal from the received HDTV signal. The filter however cannot reject the signal without detecting and determining whether or not an analog television signal is present. In other words, filtering cannot be performed by the filter 30 without detecting and/or determining that an analog television signal is present. The argument therefore is unpersuasive.

Allowable Subject Matter

7. Claims **2-4, 8-9, 11-15, 17-21,23 and 24** are allowed.
8. The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to disclose “wherein the switching circuitry comprises a signal controller circuit that senses the pulse repetition rate of the analog television signal synchronization pulses to verify that a detected analog television signal conforms to a broadcast format for which the analog television signal rejection filter is effective, as in claim 2; wherein the switching circuitry comprises: a multiplexer inserted in the DTV received signal processing path and having a first data input connected to the output of the analog television signal rejection filter, a second data input that bypasses the analog television signal rejection filter, and a select input to select one of the data inputs as a

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multiplexer output; and a signal controller having an output connected to the multiplexer select input, the signal controller sensing the pulse repetition rate of the analog television signal synchronization pulses and outputting a signal to select the multiplexer first data input when analog television signal synchronization pulses of a predetermined pulse repetition rate are received, as in claim 8; wherein the sync signal detector indicates the relative strength of synchronization pulses within the frequency spectrum of the received signal, and wherein the switching circuitry requires that detected analog television signal synchronization pulses have at least a minimum relative strength before the switching circuitry includes the analog television signal rejection filter in the DTV received signal processing path, as in claim 11; the combination of claim limitation in claim 12 and 13; and wherein determining whether an analog television signal is present comprises: measuring the pulse repetition rate of the detected analog television synchronization signals; comparing the measured pulse repetition rate to an expected pulse repetition rate for an analog television synchronization signal of a predetermined analog television signal format; and declaring that an analog television signal is present when the measured pulse repetition rate substantially matches the expected pulse repetition rate, as in claim 17; wherein extracting analog television signals comprises measuring relative signal energy present at a frequency corresponding to a synchronization signal pulse repetition rate; and wherein determining whether an analog television signal is present comprises requiring that the relative signal energy present at the frequency corresponding to a synchronization signal pulse repetition rate have at

least a minimum relative strength before it is determined that an analog television signal is present, as in claim 23.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAULO M. NATNAEL whose telephone number is (571)272-7354. The examiner can normally be reached on 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571)272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PAULOS M. NATNAEL/
Primary Examiner, Art Unit 2622

June 13, 2008